**Application No.:** 

10/571,507

**Filing Date:** 

March 10, 2006

AMENDMENTS TO THE SPECIFICATION

Please amend the ABSTRACT as shown below. Insertions are shown underlined

while deletions are struck through. A clean copy of the amended Abstract is attached to

this paper as a separate page.

The present invention provides a dispersion usable for forming an electroconductive layer

having an extremely fine pattern and a high thickness/minimum width ratio in the cross-section,

and which has a high fluidity enabling application of inkjet to draw a fine pattern at high

accuracy and contains only metal nanoparticles as a conductive medium. According to the

present invention, a metal nanoparticle dispersion suitable to multiple layered coating by jetting

in the form of fine droplets is prepared by dispersing metal nanoparticles having an average

particle size of 1 to 100 nm in a dispersion solvent having a boiling point of 80°C or higher in

such a manner that the volume percentage of the dispersion solvent is selected in the range of 55

to 80% by volume and the fluid viscosity (20°C) of the dispersion is chosen in the range of 2

mPa · s to 30 mPa · s, and then when the dispersion is discharged in the form of fine droplets by

inkjet method or the like, the dispersion is concentrated by evaporation of the dispersion solvent

in the droplets in the course of flight, coming to be a viscous dispersion which can be applicable

to multi-layered coating.

Please amend the specification as follow. Insertions are shown underlined while

deletions are struck through.

Please replace the paragraph starting at page 24, line 19 with the following.

Figure 1 FIG. 1 is a print out of an image of an outer shape of a pillar-shaped metal pillar

composed of the sintered product layer of silver nanoparticles as explained in Example 1, which

is observed by a microscope (SEM);

Please replace the paragraph starting at page 24, line 23 with the following.

Figure 2 FIG. 2 is a print out of an image of an outer shape of a disc-like (conical socle)

metal bump composed of the sintered product layer of gold nanoparticles as explained in

Example 6, which is observed by a microscope (laser microscope); and

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Please replace the paragraph starting at page 25, line 1 with the following.

Figure 3 FIG. 3 is a print out of an image of an outer shape of a disc-like (conical socle)

metal bump composed of the sintered product layer of silver nanoparticles as explained in

Example 8, which is observed by a microscope (SEM).

Please replace the paragraph starting at page 55, line 15 with the following.

Figure 1 FIG. 1 is a print out of an image of an outer shape of a pillar-shaped metal pillar

separately prepared from the silver nanoparticle dispersion of Example 1 observed by a

microscope.

Please replace the paragraph starting at page 65, line 14 with the following.

In the case of using the gold nanoparticle dispersion of Examples 6 and 7, evaporation of

the dispersion solvent contained in the coated film advances in each application and the coated

dispersion becomes viscous. On the other hand, although evaporation of the dispersion solvent

contained in the coated film also advances in each application in the case of using the gold

nanoparticle dispersion of Comparative Example 3, the coated dispersion retains fluidity. After

the drawing, the gold nanoparticles coating layer on the glass was subjected to heat treatment at

240°C for 1 hour to sinter the gold nanoparticle layer, whereby a gold nanoparticle sintered

product layer was formed. The diameter of the circular base and the height (thickness) of the

obtained sintered product layer were measured according to a microscope observation. Table 6

shows the evaluation results of the dot diameter formed from a droplet and the diameter of the

circular base and the height (thickness) of the resulting sintered product layer. Figure 2 FIG. 2 is

a print out of an image of an outer shape of a disc-like (conical socle) metal bump formed from

the gold nanoparticle sintered product prepared using the gold nanoparticle dispersion of

Example 6 observed by a laser microscope.

Please replace the paragraph starting at page 67, line 28 with the following.

Using the silver nanoparticle dispersion prepared in Example 1, a disc-like pattern whose

base is 4.5-? µm in diameter is formed on glass by an ultrafine-droplet fluid ejecting apparatus

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(ultrafine inkjet apparatus). The drawing condition was the same as that of Example 1. The coated film thickness per application was 0.3 μm and the dispersion was repeatedly coated to the same pattern several times to prepare a disc-like silver nanoparticle coating layer having a layered thickness of 3.5 μm. After the drawing, the disc-like silver nanoparticle layer on the glass was subjected to heat treatment at 240? C for 1 hour to sinter the silver nanoparticle layer, whereby a silver nanoparticle sintered product layer was formed. Regarding the outer shape of the obtained sintered product layer, the layer is a disc-like (conical socle) sintered metal pad having a circular base 4.5 μm in diameter and a thickness of 2.5 μm. Figure 3 FIG. 3 is a print out of an image of an outer shape of a sintered metal pad separately prepared under the same conditions observed by a microscope.